Patent

REMARKS

Claim Status

Claims 7-29, 31 and 32 remain pending in the present application. Claim 11 has been amended. Some of these amendments (e.g., changing "digital watermarking" to "steganographic indicia") even further broaden the scope of the claim. Claim 22 has also been amended in an editorial manner.

Art-Based Rejections

Claims 7-29, 31 and 32 stand rejected over U.S. Patent No. 5,848,373 (hereafter referred to as "the DeLorme patent") in view of U.S. Patent No. 6,748,362 (hereafter referred to as "the Meyer patent"). We traverse these rejections.

Claim 7

Claim 7 recites an apparatus including an input device to capture an _image_ of a map.

This is significant because the map includes at least one digital watermark embedded therein. Software instructions, stored in memory of the device, obtain location information from the watermark _in the captured image_.

The location information – retrieved from the map itself – is compared to GPS data. A correlation of the information is then output.

The DeLorme patent is not understood to teach or suggest capturing image data of a map itself and obtaining information there from as contemplated by claim 7.

Instead, the DeLorme patent suggests receiving GPS data for a current location, and relying on a user to "intuitively" locate that position on a map. (See, e.g., Fig. 1 and Col. 19, line 41 – Col. 20, line 7, especially Col. 20, lines 5-7.) For example, in the DeLorme patent at Fig. 1, a user reads map grid location (i.e., "C3") from a GPS device and then uses his finger to locate the corresponding grid location (i.e., grid C3) on the map.

Reference in the DeLorme patent to a "scanner" is used to capture handwriting for display. For example, the DeLorme patent discloses that a person may hand-write information on a map, and then, with a handheld scanning device, subsequently digitizing

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that information for <u>display</u> on a computer 110 or printer 112. See FIG. 14F and Col. 63, line 56 – Col. 64, line 6.

This is not digital watermarking. Nor is this using watermark information in a map to trigger a correlation.

The Examiner may wish to consult the specification at paragraph 13 where digital watermarking is defined as a form of steganography, which is the science of encoding physical and electronic objects with plural-bit digital data in such a manner that the data <u>is essentially hidden from human perception,</u> yet can be recovered by computer analysis.

The Examiner suggests that the DeLorme patent teaches digital watermarking (see, e.g., page 3 of the Office Action, lines 1-6 of paragraph 6). We disagree. We have studied the passages cited by the Examiner and we fail to see any mention of digital watermarking. The Examiner concedes this point on page 7, lines 10-12 of paragraph 12 of the Office Action.

To review: 1) the DeLorme patent does not teach or suggest using digital watermarking with a map; 2) the DeLorme patent does not teach or suggest embedding location data representing a map area with digital watermarking; and 3) the DeLorme patent does not teach or suggest capturing image data of a map to extract hidden location information.

The Meyer patent does not remedy these deficiencies.

The Meyer patent is cited by the Examiner as teaching a digital watermark. But the Meyer patent is silent on watermarking <u>location information in a map</u> as contemplated in claim 7.

Meyer is also silent with respect to machine-reading location information from a map.

(We also object to combining the DeLorme patent and the Meyer patent as suggested by the Examiner. There is no teaching or suggestion in the DeLorme patent of using a machine-readable code to obtain location information related to a specific area depicted by the map. Thus, one would not be tempted to turn to the Meyer patent to learn about digital watermarking. And, even if one did turn to the Meyer patent, there is no discussion therein of carrying location information as discussed above.).

We respectfully submit that claim 7 should be allowed.

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Claim 11

Amended claim 11 recites, in combination with other features, <u>machine-reading</u> <u>steganographic indicia from optical scan data representing</u> a map. The steganographic indicia includes location information which uniquely identifies the map in which the steganographic indicia is embedded.

The DeLorme patent is not understood to teach machine-reading steganographic indicia from a map which includes location information to uniquely identify the map. Instead, the DeLorme patent requires a user to navigate their finger over a map to identify a corresponding location that is displayed on a GPS device. See, e.g., Fig. 1 and Col. 19, line 41 – Col. 20, line 7.

We respectfully request that claim 11 be allowed.

Claim 20

In contrast to the Office's suggestion on page 4, lines 1-3 of paragraph 7, there is <u>no</u> teaching of capturing an image of a sign (e.g., an optical scan or capturing image data of a road sign) to decode information there from, or that a sign is even encoded with digital watermarks.

Instead, the cited DeLorme patent passage at Col. 34, lines 30-58 discusses displaying or outputting a map grid, and not capturing image data representing a sign; the cited passage at Col. 42, lines 52-58 discusses a conversion routine to convert a location indicator expressed in ordinary language (e.g., a telephone number or zip code) into longitude/latitude or grid names, and not capturing an image of a sign to decode information there from; and the passage at Col. 44, lines 3-9 discusses responding to a user queries (e.g., "Where is the corner of 5th Ave. and 14th Street in New York City?"), and again does not teach or suggest capturing image data of a sign.

The Meyer patent is deficient in these regards also. The Meyer patent seems focused on encoding compressed digital files -- not encoding, e.g., street signs.

We respectfully submit that the Examiner's *specific* motivation to combine the two references seems confusing: "[I]t would have been obvious . . . to use the teaching of DeLorme in conjunction with Meyer for extracting digital watermarking to provide efficient representation of digital data and pre-paid media data as suggested by DeLorme

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and then extracting digital watermarking data as taught by Meyer for processing of location information." See page 11, lines 10-15 of paragraph 17. We do not see how pre-paid media data has much to do with capturing an image of a sign, extracting a digital watermark there from, and providing a response to the watermark.

We also respectfully submit that the *general* motivation to combine the two references is similarly deficient: "DeLorme provide a discussion of the needed embedding embedded application where the need for security against theft and unauthorized access, see DeLorme column 17 lines 39-62 and Column 26 lines 44-58)." See page 5, lines 9-12 of paragraph 8. The "embedded application" mentioned in the DeLorme patent is a computer embedded in a non-computer apparatus without a computer style interface, e.g., an in-vehicle alarm system. See Col. 17, lines 56-62. The Col. 26 citation refers to embedded CAMLS software. The "CAMLS" software refers to the computer aided map location system referred to at Col. 18, lines 3-6. The term "embedded" in this context takes on its typical meaning associated with "embedded software", e.g., software instructions that permanently reside in a ROM or flash memory chip.

The DeLorme patent's use of "embedded software" does not refer to steganography or digital watermarking. In fact, there is no teaching or suggestion of hiding location information on a map at all.

Claim 20 should be allowed because the applied references fail to teach or suggest each of the claimed features.

Claim 14

Similar to the discussion above with respect to claim 20, the DeLorme patent and the Meyer patent each fail to teach or suggest a sign having plural bit data encoded thereon in the form of a digital watermark, the data comprising a unique identifier.

The Office has also failed to show how the teachings of Meyer (e.g., compressed digital files) would be helpful in watermarking, e.g., a street or road sign.

Claim 14 should be allowed.

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Claim 12

Claim 12 recites a map divided into a plurality of areas, with each area comprising at least one embedded digital watermark including location information for the respective area.

The office concedes on page 10 of the Office Action that the DeLorme patent does not teach that the areas are embedded with a watermark including location information for the respective area.

The Meyer patent is also deficient in this regard. The Meyer patent's encoding is not understood to embed location information into different – and respective – regions of an image.

The combination recited in claim 12 is not disclosed or suggested in the applied references. Thus, claim 12 should be allowed.

Claim 24

Like so many of the previously discussed claims, claim 24 considers a map including digital watermarks embedded therein. And, like claim 12 discussed immediately above, the map is divided into a plurality of areas, with each area comprising at least one embedded digital watermark including location information for the respective map area.

Claim 24 is directed to an apparatus capable of reading the watermarks from the map.

The DeLorme patent does not consider such.

And the cited passages of the Meyer patent do not teach such. In addition, the focus of the Meyer patent seems to be on digital files, not receiving optical scan data corresponding to at least a portion of a respective map area, where the optical scan data includes a watermark including location information, in combination with the other features of claim 24.

Claim 31

Claim 31 recites inputting a map location to a computing device. (The map includes a plurality of digital watermarks embedded therein.) The act of "inputting"

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includes reading at least one of the plurality of digital watermarks. The digital watermark includes the map location.

As discussed in paragraph 13 of the specification, digital watermarking is described as a form of steganography, which is the science of encoding physical and electronic objects with plural-bit digital data in such a manner that the data is essentially hidden from human perception, yet can be recovered by computer analysis.

Thus, reading at least one of the plurality of digital watermarking will necessarily include some computer analysis of a digital watermark.

The DeLorme patent does not discuss digital watermarking. The DeLorme patent does not discuss machine-reading location information from a map for use in further processing as contemplated by claim 31. The DeLorme would require a user to use their finger to intuitively find a location on a map corresponding to coordinates provided a by GPS device.

The Meyer patent does not fill the holes as discussed above.

We respectfully request that claim 31 be allowed.

Remaining claims

The remaining independent claims should also be allowed based on reasons analogous to those discussed above. The dependent claims are also believed to be patentable in their own right.

Favorable reconsideration is requested.

Information Disclosure Statement

We noticed that one of the documents cited in our March 29, 2005 Information Disclosure Statement and Form 1449 was not initialed by the Examiner. We are submitting a copy of the initialed 1449 herewith to have the Examiner confirm that the document was considered.

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Conclusion

The application is believed to be in condition for allowance. An early notice of allowance is respectfully requested. (Applicants need not belabor the other shortcomings of the art at this time.).

Nevertheless, the Examiner is invited to telephone the undersigned at 503-469-4685 if any issue remains.

Date: September 8, 2005

Respectfully submitted,

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INFORMATION DISCLOSURE STATEMENT	Docket: P0337L		Ser. No.: 09/833,013
	Applicant: Brundage et al.		
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US Patent Documents

Ex'r Initial	Number	Date	Inventor	Class
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	6130741	10/10/00	Wen et al.	
	6282362	8/28/01	Murphy et al.	
	6249226	6/19/01	Harrison et al.	
	6401206	6/4/02	Khan et al.	
	6496802	12/17/02	van Zoest et al.	·
	6512835	1/28/03	Numao et al.	
	6636249	10/21/03	Rekimoto	
	6783069	8/31/04	Hecht et al.	
	20020191856	12/19/02	Umeda et al.	
	20020069370	6/6/02	Mack	
	20020191810	12/19/02	Fudge et al.	
	20030083098	5/1/03	Yamazaki et al.	
	20040201676	10/14/04	Needham	
	20040221244	11/4/04	Baldino	

Foreign Patent Documents

Ex'r Initial	Number	Date	Country	Class

Other References

Ex'r Initial	Cite
	IBM Research Disclosure, "Universal Interactive Device," Database No. 410129, June 1998, 2 pages.

Examiner Signature: PRAMILA PARTHASARATHY	Date Considered: MAY 29, 2005

*Examiner: Initial if considered, whether or not in conformance with MPEP 609; draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.